

REMARKS

Claims 1-15 and 18-33 are pending in the application. Claims 1-15 and 18-33 are rejected under 35 U.S.C. §102. Claims 16 and 17 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The examiner's remarks are considered in substantially the order presented.

REJECTION UNDER 35 USC § 102

The examiner has rejected claims 1, 2, 4-7, 11-12, 14, 19, 21, 22, 24-25, 30-31 and 33 under 35 USC§102(b) as being anticipated by Ellison (US 1,470,430). The examiner's stated reason for the rejection of these claims is:

Ellison discloses a borehole or mine having a plurality of portable boxes (A) housing a receiver, transmitter and amplifier (p. 1, lines 70-77 and 101-104) or collectively an electron handling module for transmitting an attenuated telephone communication signal (p.1, lines 94-100) having an energy source(1) or battery.

With respect to a rejection of a claim under 35 USC§102:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

The claims in the present application are directed to a repeater in a well, such as an oil and gas well, which contains a fluid therein, such as a drilling fluid used during the drilling of the well or a mixture of water, oil and/or gas produced during the production phase of the well. Each independent claim 1, 14 and 21 has been amended to specify the presence of a well fluid in the well and that the repeater is placed in the wall of such a well. The repeater includes a receiver that receives signals that have been attenuated through a transmission medium, amplifies or boosts the received signals and transmits a second signal that is indicative of the first signal. Support for the current amendment is found in Fig. 1 (for wellbore containing a fluid therein) and paragraphs [0019] and [0021] of the application, as filed.

Ellison discloses a telephone system for communicating audio signals using a repeater in a dry mine, wherein the repeater is placed in a bore made in the wall of a mine. In the Ellison system, the signals travel from a transmitter to the repeater, typically via a metallic pipe along the wall of the mine or the earth surface. The Ellison system is not concerned with a well that contains a liquid fluid, such as a drilling fluid used during the drilling of the well or a production fluid, such as oil, gas and/or water, produced during the production phase of an oil and gas well. The Ellison system, as shown in Figs 1-3 and described in the specification is inoperable in a liquid fluid environment to which the claims of this application are directed.

Since Ellison does not show each and every element of the independent claims 1, 14 and 21, Ellison does not anticipate any of these claims. Accordingly Applicant requests that the rejection of claim 1, 14 and 21 be withdrawn.

Further, Ellison does not show or describe an electronic module as specified in claim 2. With respect to claim 3, Ellison does not show or describe a

processor that acts according to programmed instructions for controlling the repeater. With respect to claim 4, Ellison does not show or describe a downhole generator, such as a thermoelectric generator or a combination of a battery and a thermoelectric generator. With respect to claim 5, Ellison does not show or describe that the repeater is adapted to receive and transmit signals at a plurality of frequencies. With respect to claim 7, Ellison does not show or describe that the repeater is autonomous. With respect to claim 8, Ellison does not show or describe that the repeater includes a sensor for detecting a parameter of interest in the well. In fact, the telephone system of Ellison has nothing to do with sensing any parameter in the well. With respect to claim 8, Ellison does not show or disclose any one of a pressure sensor, temperature sensor or a resistivity sensor included in the repeater. Since the repeater in Ellison does not include any sensor, it follows that Ellison does not sense any of the parameters listed in claim 10. With respect to claim 13, Ellison does not show or describe that the signal includes data related to at least one parameter of interest.

Claim 15 corresponds to claim 8; claim 18 corresponds to claim 10, and claim 20 corresponds to claim 13. Additionally, Claim 22 corresponds to claim 2; claim 23 corresponds to claim 3; claim 24 corresponds to claim 4; claim 25 corresponds to claim 5; claim 26 relates to sensing signals during drilling of a wellbore, which is not disclosed or shown in Ellison; claim 27 corresponds to claim 8; claim 28 corresponds to claim 9; claim 29 corresponds to claim 10; claim 30 corresponds to claim 11; and claim 32 corresponds to claim 13.

Each of the above-noted claims depends upon one of the above-noted independent claims and is therefore not anticipated by Ellison for the reasons stated with respect to its respective independent claim. Furthermore, each of

these claims is not anticipated by Ellison for the differences between such claims and Ellison noted above.

Accordingly, Applicant respectfully submits that the rejections of these claims in view of Ellison be withdrawn. Further, Ellison does not suggest, teach or disclose any modifications that will provide the features of the independent claims discussed above. Accordingly, none of these claims is obvious in view of Ellison.

The Examiner has rejected claims 1, 3, 8, 9, 10, 13-25, 18, 20, 23 26-29 and 32 under 35 USC 102(b) as being anticipated by Smith U.S. 6,218,959. The Examiner's stated reason for the rejection of these claims is:

Smith discloses a plurality (34-36) of repeaters, transmitters and transceivers of electronic (42) packages (col. 2, lines 52—col. 3, line 5) for amplifying signals passed therebetween, including a battery, a processor (col. 4, lines 10-16) and temperature sensors (40) for while drilling (10,32) measurements.

Smith discloses several embodiments of a repeater in a drill pipe. (see Figs 2A and 2B for the first embodiment; Figs. 3A and 3B for the second embodiment; and Figs. 4A and 4B for the third embodiment). Referring to Figs 2A and 2B of Smith, the repeater 76 includes a receiver 12, transmitter 124, and an electronic package 122 in an annular space are enclosed by a housing 82 and mandrel 85. The repeater includes an upper connector and a lower connector 80, which are threadably connected to drill pipe sections, such as elements shown in Fig. 1.

The other embodiments shown and described in Smith also include the above-noted features of Figs. 2A and 2B. Smith is not concerned with any repeater that is embedded in a well wall, as specified in independent claims

1,14 and 21. It is not seen how Smith's repeater can be embedded into the wall of wall as specified in claims 1, 14 and 21 and be operable.

Accordingly, Applicant submits that Smith does not anticipate any of the independent claims 1, 14, and 21. All of the remaining claims depend upon one of these independent claims and are therefore not anticipated by Smith for the reasons presented above with respect to their corresponding independent claims.

Further, with respect to claim 3, Smith does not show or describe a processor that acts according to programmed instructions for controlling the repeater. With respect to claim 4, Smith does not show or disclose a downhole generator, such as thermoelectric generator or a combination of a battery and a thermoelectric generator. With respect to claim 5, Smith does not show or describe that the repeater is adapted to receive and transmit signals at a plurality of frequencies. With respect to claim 7, Smith does not show or disclose that the repeater is autonomous. With respect to claim 8, Smith does not show or disclose that the repeater includes a sensor for detecting a parameter of interest. In fact, the repeater of Smith has nothing to do with sensing any parameter in the well. With respect to claim 8, Smith does not show or disclose any one of a pressure sensor, temperature sensor or a resistivity sensor included in the repeater. Since the repeater in Smith does not show or describe a sensor in the repeater that, it cannot provide any of the parameters listed in claim 10.

Claim 15 corresponds to claim 8 and claim 18 corresponds to claim 10. Additionally, claim 23, corresponds to claim 3; claim 24 corresponds to claim 4; claim 25 corresponds to claim 5; claim 26 relates to sensing signals during drilling of a wellbore, which is not disclosed or shown in Smith; claim 27

corresponds to claim 8; claim 28 corresponds to claim 9; claim 29 corresponds to claim 10; claim 30 corresponds to claim 11 and claim 32 corresponds to claim 13.

Accordingly, Applicant submits that each of the dependent claims is not anticipated by Smith for the reasons presented with respect to their respective independent claims. In addition, the above-noted dependent claims are not anticipated by Smith because of the lack of the presence of the above-noted features in Smith. Also, Smith does not suggest any modifications to its repeater that will provide the apparatus and method of independent claims 1, 14 and 21. Accordingly none of the claims is obvious in view of Smith.

CONCLUSION

For all of the reasons stated above, Applicant submits that all claims are now allowable in view of the cited references and prior art of record. The Commissioner is hereby authorized to charge any fee and credit any overpayment associated with this response to Deposit Account No. **02-0429(564-24872-US)**.

Respectfully submitted,

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